WELDING PROCEDURE SPECIFICATION

WPS- 2010/1000-8 **REV. NO.:** 0 **DATE:** 9/1/2004 ****APPLICABILITY****

WELDING PROCESS/ES GTAW **and** SMAW **ASME:** X **AWS:** X

SUPPORTING PQ P-WS-213 Z-SM-8-WS-1 P-WS-155-1 **OTHER:**

JOINT **This WPS shall be used in conjunction with the General Welding Standards (GWS) and Welding Fabrication Procedure (WFP) sections and criteria for joint details, repairs, NDE, inspection etc.**

Weld Joint Type Butt/Fillet **Class:** Full or Partial Penetration

See GWS 1-06 for details **Preparation:** Thermal/Mechanical

Root Opening: **Backing:** With/Without

Backgrind root: on double sided joints **Backing Mat.:** Metal if used

Bkgrd Method: grind or arc gouge then grind **GTAW Flux:** N/A **Backing Retainer:** N/A

FILLER METALS: **Class:** ER308 ER347 **and** E308 E347

A No: 8 **SFA Class:** 5.4 **and** 5.6 **F No:** 5 **and** 6 **Size:** 3/32 3/32 1/8 1/8

Insert: Y **Insert Desc.:** **Weld Metal Thickness Range:**

Flux: Type: NA **Size:** 0 **AWS:** 0.120 **thru** 1.250

Filler Metal Note: **ASME:** 0.187 **thru** 1.250

BASE MATERIAL **P No.** 8 **Gr No.** All **to: P No.** 8 **Gr No.** All

Spec. Stainless Steel **Grade:** All **to: Spec.** Stainless Steel **Grade:** All

Pipe Dia Range: **Groove >** 2

Thickness Range: Groove : **AWS:** 0.120 **thru** 1.250 **ASME:** 0.187 **thru** 1.250

QUALIFIED POSITIONS All All **Vertical Progression:** Up

Preheat Min. Temp.: 50 **F** **GAS: Shielding:** Argon **or** Argon

Interpass Max. Temp. 350 **F** **Gas Composition:** 100 **%** **%** **%**

Preheat Maintinance: 50 **F** **Gas Flow Rate cfh** 10 **to** 25

Backing Gas/Comp: Argon 100 **%**

PWHT: Time @ F Temp. **Backing Gas Flow cfh** 3 **to** 8

Temp. Range: **F** **to** **F** **Trailing Gas/Comp:** N/A **%**

PREPARED BY Kelly Bingham **DATE:** 3/30/2004

Signature on file at FWO-DECS

APPROVED BY Tobin Oruch **DATE:** 9/1/2004

Signature on file at FWO-DECS

Note:For SC/SS/ML-1/ML-2 work, this WPS requires independent review.

WELDING CHARACTERISTICS:

Current: DCEN **and** DCEP **Tungsten type:** EWTH-2 **Transfer Mode:** N/A

Ranges: Amps 65 **to** 100 **Pulsing Cycle:** 0 **to** 0

Volts 10 **to** 21 **Background Current:** 0

Fuel Gas: N/A **Flame:** N/A **Braze temp. F to**

WELDING TECHNIQUE: **For cleaning, grinding, and inspection criteria refer to Volume 2, Welding Fabrication Procedures**

Technique: Manual **Cleaning Method:** Wire Brush, File, Grind, Chip

Single Pass of Multi Pass: M **Stringer or Weave bead (S/W):** S/W **Oscillation:** N

GMAW Gun Angle °: 0 **to** 0 **Forehand or Backhand for GMAW (F/B):** N/A

Maximum K/J Heat Input **Travel speed/ipm:** - **Gas Cup Size:**

PROCEDURE QUALIFIED FOR:

Charpy "V" Notch: N **Nil-Ductil Transition Temperature:** N **Dynamic Tear:** N

Comments:

Weld Layer	Manual Process	Filler Metals	Size	Amp Range		Volt Range		Travel ipm	Nozzel Angle	Other
1	GTAW	R308 ER34	3/32	65	95	10	12		0	
2	SMAW	E308 E347	3/32	75	100	18	21		0	
3			1/8							
4			1/8							
5										
6										
7										
8										

REM. * Weld layers are representative only - actual number of passes and layer sequence may vary due to variations in joint design, thickness and fitup.